

REMARKS

I. Introduction

Claims 55 to 126 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 55-126 Under 35 USC §102(b)

Claims 55-126 were rejected under 35 U.S.C. 102(b) as anticipated by German Patent No. 3435883 ("Heilmann et al."). Applicants respectfully submit that Heilmann et al. do not anticipate the present claims for the following reasons.

Claims 55, 69, 83, 97, 110 and 121 relate to, or recite the feature of, an end cap for a filter device. These claims have been amended herein without prejudice to recite that the curved members extend away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction. In addition, claims 68, 82, 96, 109 and 120 relate to, or recite the feature of, an end cap for a filter device. These claims have been amended herein without prejudice to recite that curved members extend away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as a first direction, a channel defining a fluid flow path in this first direction. Also, claim 124 relates to a method for filtering a fluid, and has been amended herein without prejudice to recite at least one member defined by an interior surface of, and located within, the interior chamber of the end cap, the interior surface being adjacent to the channel. Support for these amendments can be found, for instance, in the Specification, which states at page 4, lines 27-31, that "guide elements are provided in the areas adjacent to the . . . channel, so that the direction of flow of the fluid leaving the channel can be influenced by these guide elements." Support is also shown in, e.g., Figures 1, 8 and 12, which illustrate that the interior surface of the end cap 30, and the ribs 14 extending away from this interior surface and towards the hollow fiber bundle, are adjacent to the channel.

It is respectfully submitted that Heilmann et al. do not anticipate the present claims for at least the reason that Heilmann et al. fail to disclose, or even suggest, all of the claimed features of each claim. For instance, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, a portion of a channel defining a fluid flow path in a first generally axial direction and members extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as the first generally axial direction as recited in claims 55, 69, 83, 97, 110 and 121. Furthermore, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, members extending away from an interior surface of the end cap that is adjacent to the channel in a direction that is the same as a first direction, a channel defining a fluid flow path in this first direction as recited in claims 68, 82, 96, 109 and 120. Furthermore, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one member defined by an interior surface of the

interior chamber of the end cap, the interior surface being adjacent to the channel, as recited in claim 124.

In contrast, Heilmann et al. disclose in Figures 1 to 3 a flat, perforated disk 46 that is interposed between the inlet side 28 of an end cap 30, e.g., having a neck 26, and an outlet side 32 of the end cap 30, e.g., in which a filter element 20 is located. The flat disk 46 has guiding means 50 located on a surface facing the inlet side 28 of the end cap 30. As shown in Figure 1 and 3, the flat perforated disk 56 is spaced apart from the interior surface of the interior chamber of the end cap. Therefore, even if the perforated disk 46 could be considered an interior surface of the end cap as contended in the Final Office Action (which it should not be), the perforated disk 46 is not adjacent to the channel, but is spaced apart therefrom.

Furthermore, the Final Office Action states that “[w]ith re to the curved members being extending in the first direction away from an interior surface, the vanes extend from an interior surface (46) of the end cap in the axial direction.” Final Office Action at page 2. As shown in Figure 1 and 3, the flat perforated disk 56, and thus the guiding means 50 disposed on the surface of the perforated disk 46, are spaced apart from the interior surface of the interior chamber of the end cap. Therefore, these guiding means 50 do not extend from an interior surface of the end cap, but rather extend from the flat disk 56. The Final Office Action states at page 7 that “[d]isk 56 in Heilmann [et al.] forms an interior surface.” As set forth above, the claims of the present application recite that the interior surface is adjacent to the channel. Since the flat disk 56 of Heilmann et al. is spaced apart from the channel and is therefore not adjacent to the channel, the flat disk 56 of Heilmann et al. is not an “interior surface” within the meaning of the claim.

In view of this, these guiding means 50 of Heilmann et al. extend towards the interior surface 54 of the end cap, not away from it as recited in the claims. Even if the perforated disk 46 could be considered an interior surface of the end cap as contended in the Final Office Action (which for the above-stated reasons it should not be), these guiding means 50 do not extend away from an interior surface of the end cap in a direction that is the same as the direction at which fluid enters the end cap. Rather, these guiding means 50 extend in a direction that opposite to the direction at which fluid enters the end cap. The Final Office Action states at page 7 that “[t]he guide vanes [] extend away from the surface of 56 in the axial direction and also from the surface 54 of the end cap.” It is not true that the guiding means 50 extend away from the surface 54 of the end cap. The guiding means 50 never even touch the surface 54 of the end cap, and thus can not extend away from it. Furthermore, while it may be true that the guide vanes extend away from the surface of 56 in an axial direction, this axial direction is, as set forth above, opposite to and not the same as the axial direction recited in the claim, i.e., the axial direction at which fluid enters the end cap. Furthermore, these guiding means 50 are not defined by an interior surface of the

interior chamber of the end cap that is adjacent to the channel, as recited in claim 124, but rather are disposed on the flat disk 56 which is spaced apart from and is not adjacent to the channel.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that Heilmann et al. do not disclose, or even suggest, all of the features recited in claims 55, 68, 69, 82, 83, 96, 97, 109, 110, 120, 121 and 124.

All of the remaining claims ultimately depend from and include all of the limitations of a respective one of the above-mentioned independent claims. It is respectfully submitted that Heilmann et al. do not anticipate any of these dependent claims for at least the same reasons given above in support of the respective independent claims.

III. Rejection of Claims 55-67, 69, 70, 71, 76-81, 83-95, 97-99, 101, 104-108, 121 and 124 Under 35 USC §102(b)

Claims 55-67, 69, 70, 71, 76-81, 83-95, 97-99, 101, 104-108, 121 and 124 were rejected under 35 U.S.C. 102(b) as anticipated by U.S. Patent No. 4,885,089 (“Hankammer”). Applicants respectfully submit that Hankammer does not anticipate the present claims for the following reasons.

It is respectfully submitted that Hankammer does not anticipate the present claims for at least the reason that Hankammer fails to disclose, or even suggest, all of the claimed features of each claim. For instance, it is respectfully submitted that Hankammer fails to disclose, or even suggest, a channel that defines a fluid flow path in a generally axial direction as recited in claims 55, 69, 83, 97, 121 and 124. In contrast, Hankammer describes “[a] distributor cap [that] consists essentially of the umbrella-shaped bottom section 15, the vanes 4 mounted beneath, and the hollow cone 9 acting as handle and vent.” Col. 4, lines 3-6. The Final Office Action states that “Hankammer teaches an end cap for a filter . . . comprising a generally axial inlet flow path (9).” Final Office Action at page 4. Thus, the Final Office Action identifies the hollow cone 9 as a generally axial inlet fluid flow path. However, this hollow cone 9 does not provide a channel that defines a fluid flow path in a generally axial direction because the hollow cone 9 is a vent which acts as an outlet for air. Specifically, Hankammer states that “FIG. 2 also shows the central venting duct 11 of the hollow cone 9,” col. 4, lines 9-10, and most importantly, that “[v]enting duct 11 has the function of venting the sealing screen 2 and hollow cone 10.” Col. 4, lines 45-47, emphasis added. Thus, the hollow cone 9 does not function as a fluid flow path.

The Final Office Action states at page 7 that “the fluid flow path is only intended use, which the endcap taught by Hankammer is capable of; and the argument is about function not structure.” The Examiner’s contention of what “Hankammer is capable of” is **explicitly contradicted** by the language of Hankammer. Specifically, Hankammer states that “[i]t is clearly evident from FIGS. 1 to 3 that a water jet arriving from above **cannot** impact directly on sealing screen 2 and the filter material beneath it, which would otherwise result in flow channels forming in the filtering material.” Col. 4, lines 23-27, emphasis added. Rather, fluid enters the device of Hankammer from the sides of the device. For instance, Hankammer states that “[t]he water arriving on umbrella-shaped bottom section 15 flows down the sides and then penetrates into the intermediate spaces between vanes 4 under distributor cap 3 and thus reaches the screening apertures of the sealing screen 2.” Col. 4, lines 29-33. Since the language of Hankammer explicitly contradicts the Examiner’s contention that the hollow cone 9 can function as a fluid flow path, it is clear that Hankammer does not disclose or suggest this feature of the present claims.

As for claims 56-67, 70, 71, 76-81, 84-95, 98-99, 101 and 104-108, each of which ultimately depends from and include all of the limitations of a respective one of independent claims 55, 69, 83 and 97, it is respectfully submitted that Hankammer does not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claims 55, 69, 83 and 97.

IV. Rejection of Claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126 Under 35 U.S.C. § 103(a)

Claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,201,673 (“Kanno et al.”) in view of Hankammer. Applicants respectfully submit that the combination of Kanno et al. and Hankammer does not render obvious the present claims for the following reasons.

For example, it is respectfully submitted that the combination of Kanno et al. and Hankammer does not render obvious the present claims because a person of ordinary skill in the art would not have been motivated to combine the teachings of Kanno et al. and Hankammer. For instance, and as set forth above, the hollow cone 9 of Hankammer is a vent which acts as an outlet for air. Thus, fluid is not conveyed to the filter arrangement of Hankammer via the hollow cone 9, but rather “[t]he water arriving on umbrella-shaped bottom section 15 flows down the sides and *then* penetrates into the intermediate spaces between vanes 4 under distributor cap 3 and thus reaches the screening apertures of the sealing screen 2.” Col. 4, line 29-33, emphasis added. In contrast, the sides of the device in Kanno et al. are closed and do not permit fluid flow. Thus, a person of ordinary skill in the art would not have been motivated to use the arrangement of Hankammer in the device of Kanno et al. because the device of Kanno et al. is not suitable to permit fluid flow in the manner in which fluid flows in Hankammer, i.e., through the sides of the device.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

The Final Office Action argues at page 7 that "the test for obviousness is not whether the features of the secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references . . . [r]ather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." As set forth above, Applicant respectfully maintains that a person of ordinary skill in the art would not have been motivated to use the arrangement of Hankammer in the device of Kanno et al. because the device of Kanno et al. is not suitable to permit fluid flow in the manner in which fluid flows in Hankammer, i.e., through the sides of the device.

For the foregoing reasons, it is respectfully submitted that the combination of Kanno et al. and Hankammer do not render unpatentable claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126.

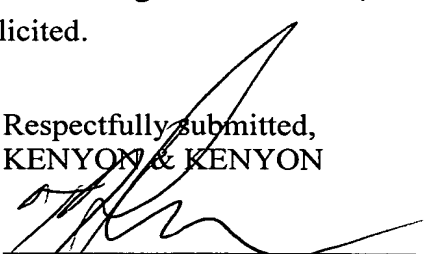
V. Conclusion

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

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